

05/20
11/15

#15



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/902,481B

DATE: 11/21/2002

TIME: 10:19:18

Input Set : A:\A70586-1_Proposed_Substitute.ST25.txt
 Output Set: N:\CRF4\11212002\I902481B.raw

3 <110> APPLICANT: Springer, Timothy
 4 Shimaoka, Motomu
 5 Shifman, Julia
 6 Mayo, Stephen
 8 <120> TITLE OF INVENTION: NOVEL PROTEINS WITH INTEGRIN-LIKE ACTIVITY
 10 <130> FILE REFERENCE: A-70586-1/RFT/RMS/RMK
 12 <140> CURRENT APPLICATION NUMBER: US 09/902,481B
 13 <141> CURRENT FILING DATE: 2001-07-09
 15 <150> PRIOR APPLICATION NUMBER: US 60/216,600
 16 <151> PRIOR FILING DATE: 2000-07-07
 18 <160> NUMBER OF SEQ ID NOS: 13
 20 <170> SOFTWARE: PatentIn version 3.1
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 1153
 24 <212> TYPE: PRT
 25 <213> ORGANISM: Homo sapiens
 27 <220> FEATURE:
 28 <221> NAME/KEY: mat_peptide
 29 <222> LOCATION: (17)..()
 30 <223> OTHER INFORMATION:
 W--> 32 <400> 1
 34 Met Ala Leu Arg Val Leu Leu Thr Ala Leu Thr Leu Cys His Gly
 35 -15 -10 -5 -1
 38 Phe Asn Leu Asp Thr Glu Asn Ala Met Thr Phe Gln Glu Asn Ala Arg
 39 1 5 10 15
 42 Gly Phe Gly Gln Ser Val Val Gln Leu Gln Gly Ser Arg Val Val Val
 43 20 25 30
 46 Gly Ala Pro Gln Glu Ile Val Ala Ala Asn Gln Arg Gly Ser Leu Tyr
 47 35 40 45
 50 Gln Cys Asp Tyr Ser Thr Gly Ser Cys Glu Pro Ile Arg Leu Gln Val
 51 50 55 60
 54 Pro Val Glu Ala Val Asn Met Ser Leu Gly Leu Ser Leu Ala Ala Thr
 55 65 70 75 80
 58 Thr Ser Pro Pro Gln Leu Leu Ala Cys Gly Pro Thr Val His Gln Thr
 59 85 90 95
 62 Cys Ser Glu Asn Thr Tyr Val Lys Gly Leu Cys Phe Leu Phe Gly Ser
 63 100 105 110
 66 Asn Leu Arg Gln Gln Pro Gln Lys Phe Pro Glu Ala Leu Arg Gly Cys
 67 115 120 125
 70 Pro Gln Glu Asp Ser Asp Ile Ala Phe Leu Ile Asp Gly Ser Gly Ser
 71 130 135 140
 74 Ile Ile Pro His Asp Phe Arg Arg Met Lys Glu Phe Val Ser Thr Val
 75 145 150 155 160

P.6

ENTERED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/902,481B

DATE: 11/21/2002

TIME: 10:19:18

Input Set : A:\A70586-1_Proposed_Substitute.ST25.txt
 Output Set: N:\CRF4\11212002\I902481B.raw

78 Met Glu Gln Leu Lys Lys Ser Lys Thr Leu Phe Ser Leu Met Gln Tyr
 79 165 170 175
 82 Ser Glu Glu Phe Arg Ile His Phe Thr Phe Lys Glu Phe Gln Asn Asn
 83 180 185 190
 86 Pro Asn Pro Arg Ser Leu Val Lys Pro Ile Thr Gln Leu Leu Gly Arg
 87 195 200 205
 90 Thr His Thr Ala Thr Gly Ile Arg Lys Val Val Arg Glu Leu Phe Asn
 91 210 215 220
 94 Ile Thr Asn Gly Ala Arg Lys Asn Ala Phe Lys Ile Leu Val Val Ile
 95 225 230 235 240
 98 Thr Asp Gly Glu Lys Phe Gly Asp Pro Leu Gly Tyr Glu Asp Val Ile
 99 245 250 255
 102 Pro Glu Ala Asp Arg Glu Gly Val Ile Arg Tyr Val Ile Gly Val Gly
 103 260 265 270
 106 Asp Ala Phe Arg Ser Glu Lys Ser Arg Gln Glu Leu Asn Thr Ile Ala
 107 275 280 285
 110 Ser Lys Pro Pro Arg Asp His Val Phe Gln Val Asn Asn Phe Glu Ala
 111 290 295 300
 114 Leu Lys Thr Ile Gln Asn Gln Leu Arg Glu Lys Ile Phe Ala Ile Glu
 115 305 310 315 320
 118 Gly Thr Gln Thr Gly Ser Ser Ser Ser Phe Glu His Glu Met Ser Gln
 119 325 330 335
 122 Glu Gly Phe Ser Ala Ala Ile Thr Ser Asn Gly Pro Leu Leu Ser Thr
 123 340 345 350
 126 Val Gly Ser Tyr Asp Trp Ala Gly Gly Val Phe Leu Tyr Thr Ser Lys
 127 355 360 365
 130 Glu Lys Ser Thr Phe Ile Asn Met Thr Arg Val Asp Ser Asp Met Asn
 131 370 375 380
 134 Asp Ala Tyr Leu Gly Tyr Ala Ala Ala Ile Ile Leu Arg Asn Arg Val
 135 385 390 395 400
 138 Gln Ser Leu Val Leu Gly Ala Pro Arg Tyr Gln His Ile Gly Leu Val
 139 405 410 415
 142 Ala Met Phe Arg Gln Asn Thr Gly Met Trp Glu Ser Asn Ala Asn Val
 143 420 425 430
 146 Lys Gly Thr Gln Ile Gly Ala Tyr Phe Gly Ala Ser Leu Cys Ser Val
 147 435 440 445
 150 Asp Val Asp Ser Asn Gly Ser Thr Asp Leu Val Leu Ile Gly Ala Pro
 151 450 455 460
 154 His Tyr Tyr Glu Gln Thr Arg Gly Gly Gln Val Ser Val Cys Pro Leu
 155 465 470 475 480
 158 Pro Arg Gly Gln Arg Ala Arg Trp Gln Cys Asp Ala Val Leu Tyr Gly
 159 485 490 495
 162 Glu Gln Gly Gln Pro Trp Gly Arg Phe Gly Ala Ala Leu Thr Val Leu
 163 500 505 510
 166 Gly Asp Val Asn Gly Asp Lys Leu Thr Asp Val Ala Ile Gly Ala Pro
 167 515 520 525
 170 Gly Glu Glu Asp Asn Arg Gly Ala Val Tyr Leu Phe His Gly Thr Ser
 171 530 535 540
 174 Gly Ser Gly Ile Ser Pro Ser His Ser Gln Arg Ile Ala Gly Ser Lys

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/902,481B

DATE: 11/21/2002

TIME: 10:19:18

Input Set : A:\A70586-1_Proposed_Substitute.ST25.txt

Output Set: N:\CRF4\11212002\I902481B.raw

175	545	550	555	560
178	Leu Ser Pro Arg Leu Gln Tyr Phe Gly Gln Ser Leu Ser Gly Gly Gln			
179	565	570	575	
182	Asp Leu Thr Met Asp Gly Leu Val Asp Leu Thr Val Gly Ala Gln Gly			
183	580	585	590	
186	His Val Leu Leu Leu Arg Ser Gln Pro Val Leu Arg Val Lys Ala Ile			
187	595	600	605	
190	Met Glu Phe Asn Pro Arg Glu Val Ala Arg Asn Val Phe Glu Cys Asn			
191	610	615	620	
194	Asp Gln Val Val Lys Gly Lys Glu Ala Gly Glu Val Arg Val Cys Leu			
195	625	630	635	640
198	His Val Gln Lys Ser Thr Arg Asp Arg Leu Arg Glu Gly Gln Ile Gln			
199	645	650	655	
202	Ser Val Val Thr Tyr Asp Leu Ala Leu Asp Ser Gly Arg Pro His Ser			
203	660	665	670	
206	Arg Ala Val Phe Asn Glu Thr Lys Asn Ser Thr Arg Arg Gln Thr Gln			
207	675	680	685	
210	Val Leu Gly Leu Thr Gln Thr Cys Glu Thr Leu Lys Leu Gln Leu Pro			
211	690	695	700	
214	Asn Cys Ile Glu Asp Pro Val Ser Pro Ile Val Leu Arg Leu Asn Phe			
215	705	710	715	720
218	Ser Leu Val Gly Thr Pro Leu Ser Ala Phe Gly Asn Leu Arg Pro Val			
219	725	730	735	
222	Leu Ala Glu Asp Ala Gln Arg Leu Phe Thr Ala Leu Phe Pro Phe Glu			
223	740	745	750	
226	Lys Asn Cys Gly Asn Asp Asn Ile Cys Gln Asp Asp Leu Ser Ile Thr			
227	755	760	765	
230	Phe Ser Phe Met Ser Leu Asp Cys Leu Val Val Gly Gly Pro Arg Glu			
231	770	775	780	
234	Phe Asn Val Thr Val Thr Val Arg Asn Asp Gly Glu Asp Ser Tyr Arg			
235	785	790	795	800
238	Thr Gln Val Thr Phe Phe Pro Leu Asp Leu Ser Tyr Arg Lys Val			
239	805	810	815	
242	Ser Thr Leu Gln Asn Gln Arg Ser Gln Arg Ser Trp Arg Leu Ala Cys			
243	820	825	830	
246	Glu Ser Ala Ser Ser Thr Glu Val Ser Gly Ala Leu Lys Ser Thr Ser			
247	835	840	845	
250	Cys Ser Ile Asn His Pro Ile Phe Pro Glu Asn Ser Glu Val Thr Phe			
251	850	855	860	
254	Asn Ile Thr Phe Asp Val Asp Ser Lys Ala Ser Leu Gly Asn Lys Leu			
255	865	870	875	880
258	Leu Leu Lys Ala Asn Val Thr Ser Glu Asn Asn Met Pro Arg Thr Asn			
259	885	890	895	
262	Lys Thr Glu Phe Gln Leu Glu Leu Pro Val Lys Tyr Ala Val Tyr Met			
263	900	905	910	
266	Val Val Thr Ser His Gly Val Ser Thr Lys Tyr Leu Asn Phe Thr Ala			
267	915	920	925	
270	Ser Glu Asn Thr Ser Arg Val Met Gln His Gln Tyr Gln Val Ser Asn			
271	930	935	940	

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/902,481B

DATE: 11/21/2002

TIME: 10:19:18

Input Set : A:\A70586-1_Proposed_Substitute.ST25.txt
 Output Set: N:\CRF4\11212002\I902481B.raw

274 Leu Gly Gln Arg Ser Leu Pro Ile Ser Leu Val Phe Leu Val Pro Val
 275 945 950 955 960
 278 Arg Leu Asn Gln Thr Val Ile Trp Asp Arg Pro Gln Val Thr Phe Ser
 279 965 970 975
 282 Glu Asn Leu Ser Ser Thr Cys His Thr Lys Glu Arg Leu Pro Ser His
 283 980 985 990
 286 Ser Asp Phe Leu Ala Glu Leu Arg Lys Ala Pro Val Val Asn Cys Ser
 287 995 1000 1005
 290 Ile Ala Val Cys Gln Arg Ile Gln Cys Asp Ile Pro Phe Phe Gly
 291 1010 1015 1020
 294 Ile Gln Glu Glu Phe Asn Ala Thr Leu Lys Gly Asn Leu Ser Phe
 295 1025 1030 1035
 298 Asp Trp Tyr Ile Lys Thr Ser His Asn His Leu Leu Ile Val Ser
 299 1040 1045 1050
 302 Thr Ala Glu Ile Leu Phe Asn Asp Ser Val Phe Thr Leu Leu Pro
 303 1055 1060 1065
 306 Gly Gln Gly Ala Phe Val Arg Ser Gln Thr Glu Thr Lys Val Glu
 307 1070 1075 1080
 310 Pro Phe Glu Val Pro Asn Pro Leu Pro Leu Ile Val Gly Ser Ser
 311 1085 1090 1095
 314 Val Gly Gly Leu Leu Leu Leu Ala Leu Ile Thr Ala Ala Leu Tyr
 315 1100 1105 1110
 318 Lys Leu Gly Phe Phe Lys Arg Gln Tyr Lys Asp Met Met Ser Glu
 319 1115 1120 1125
 322 Gly Gly Pro Pro Gly Ala Glu Pro Gln
 323 1130 1135
 326 <210> SEQ ID NO: 2
 327 <211> LENGTH: 4740
 328 <212> TYPE: DNA
 329 <213> ORGANISM: Homo sapiens
 331 <400> SEQUENCE: 2
 332 gaattccgtg gttcctcagt ggtgcctgca acccctgggtt caccctccccc caggttctgg 60
 334 ctccctccagg ccatggctct cagagtccctt ctgttaacag ctttgacccat atgtcatggg 120
 336 ttcaacttgg acactgaaaa cgccaatgacc ttccaaagaga acgcaagggg cttcgccggcag 180
 338 agcgttgtcc agcttcagggtt atccagggtt gtgggttggag ccccccagga gatagtggct 240
 340 gccaacccaaa ggggcagcctt ctaccagtgc gactacagca caggctcatg cgagccccatc 300
 342 cgcctgcagg tccccgtgga ggccgtgaac atgtccctgg gcctgtccctt ggcagccacc 360
 344 accagccccc ctcagctgtt ggcctgtgtt cccaccgtgc accagactt cagtgagaac 420
 346 acgttatgtga aagggtctgtt cttccctgtt ggatccaacc tacggcagca gccccagaag 480
 348 ttcccagagg ccctccggagg gtgtcctcaa gaggatagtg acattgcctt cttgattgtat 540
 350 ggctctggta qcatcatccc acatgacttt cggccgtatg aggagttgtt ctcactgtg 600
 352 atggagcaat taaaaaaatgc caaaaaccttg ttctctttga tgcaagtactc tgaagaattc 660
 354 cggattcaact ttaccttcaa agagttccag aacaacccta acccaagatc actgggtgaag 720
 356 ccaataacgc agctgcttgg gggacacac acggccacgg gcatccgcaa agtgggtacga 780
 358 gagctgttta acatcaccaa cggagccca aagaatgcct ttaagatccc agtgttcatc 840
 360 acggatggag aaaagttgg cgatcccttg ggatatgagg atgtcatccc tgagggcagac 900
 362 agagagggag tcattcgcta cgtcattggg gtgggagatg ccttccgcag tgagaaatccc 960
 364 cgccaagagc ttaataccat cgcacatccaag ccgcctcgtg atcacgtgtt ccaggtgaat 1020
 366 aactttgagg ctctgaagac cattcagaac cagcttcggg agaagatctt tgcgatcgg 1080

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/902,481B

DATE: 11/21/2002

TIME: 10:19:18

Input Set : A:\A70586-1_Proposed_Substitute.ST25.txt

Output Set: N:\CRF4\11212002\I902481B.raw

368	ggtactcaga caggaagttag cagctcctt gagcatgaga ttgttcagga aggcttcagc	1140
370	gctccatca cctctaattgg ccccttgctg agcactgtgg ggagctatga ctgggctgg	1200
372	ggagtctttc tatatacatc aaaggagaaa agcacctca tcaacatgac cagagtggat	1260
374	tcaagacatga atgatgctta cttgggttat gctgcccca tcatacttacg gaaccgggtg	1320
376	caaaggctgg ttctggggc acctcgatat cagcacatcg gcctggtagc gatgttcagg	1380
378	cagaacactg gcatgtggg gtccaacgct aatgtcaagg gcacccagat cggcgccctac	1440
380	ttcggggcct ccctctgctc cgtggacgtg gacagcaacg gcagcaccga cctggcctc	1500
382	atcggggccc cccattacta cgagcagacc cgagggggcc aggtgtccgt gtgcggcttg	1560
384	cccagggggc agagggctcg gtggcagttt gatgtgttc tctacgggaa gcagggccaa	1620
386	ccctggggc gcttggggc agccctaaca gtgtggggg acgtaaatgg ggacaagctg	1680
388	acggacgtgg ccattggggc cccaggagag gaggacaacc ggggtgtgt ttacctgttt	1740
390	cacggAACCT caggatctgg catcagcccc tcccatagcc agcggatagc aggttccaag	1800
392	ctctctccca ggctccagta tttggctcg tcactgagtg gggccagga cctcacaatg	1860
394	gatggactgg tagacctgac tgttaggagcc caggggcacg tgctgctgt caggtcccag	1920
396	ccagtaactg gagtcaaggc aatcatggag ttcaatccca gggaaatggc aagaatgtt	1980
398	tttggatgtt atgatcagggt ggtgaaaggc aaggaagccg gagaggtcag agtctgcctc	2040
400	catgtccaga agagcacacg ggatcggcta agagaaggac agatccagag tttgtgact	2100
402	tatgacctgg ctctggactc cggccggcca cattcccgcc cgcttccaa tgagacaaag	2160
404	aacagcacac gcagacacac acagggtctt gggctgaccc agacttgcg gaccctgaaa	2220
406	ctacagttgc cgaatttgcgat cgaggaccca gtgagccccc ttgtgtcg cctgaacttc	2280
408	tctctgggtt gaacgcccatt gtctgcttcc gggAACCTCC ggccagtgtt ggcggaggat	2340
410	gctcagagac tcttcacagc ttgtttccc ttggatgtt attgtggcaa tgacaaacatc	2400
412	tgccaggatg acctcagcat cacccatgtt ttcatgagcc tggactgcct cgtgggggt	2460
414	ggggcccccggg agttcaacgt gacagtgtact gtgagaaatg atggtgagga ctctacagg	2520
416	acacaggtca ccttcttctt cccgcttgc ctgtccattc ggaagggtgc cacactccag	2580
418	aaccagcgct cacagcgatc ctggcgccctg gcctgtgtt ctccttcacc caccgaagt	2640
420	tctggggcct tgaagagcac cagctgcagc ataaaccacc ccatcttccc ggaaaactca	2700
422	gaggtcacct ttaatatcac ttgttgcgtt gactctaagg ctcccttgg aaacaaactg	2760
424	ctcctcaagg ccaatgtgac cagtggaaac aacatgcacca gaaccaacaa aaccgaattc	2820
426	caactggagc tgccgggtt atatgtgtc tacatgggg tcaccagcca tgggtctcc	2880
428	actaaatatc tcaacttcac ggcctcagag aataccatgc ggttgcattt gcatcaatat	2940
430	caggtcagca acctggggca gaggagccctc cccatcagcc ttgtgttctt ggtgcccgtc	3000
432	cggtgaacc agactgtcat atgggacccg ccccaaggta ccttctccga gacccctctcg	3060
434	agtacgtgcc acaccaaggc ggcgttgcctc tctcaactccg actttcttgc tgagcttcgg	3120
436	aaggcccccc tggtgaactg ctccatcgat gtctgcccaga gaatccatgt tgacatcccg	3180
438	ttctttggca tccaggaaga attcaatgtt accctcaaa gcaacccctc gtttgactgg	3240
440	tacatcaaga cctcgatcaa ccaccccttgc atcgtgagca cagctgatgtt cttgtttaac	3300
442	gattccgtgt tcaccctgtt gccgggacag gggcggtt tgaggtccca gacggagacc	3360
444	aaagtggagc cgttgcaggat ccccaacccc ctggcgctca tcgtgggcag ctctgtcg	3420
446	ggactgctgc ttctggccct catcaccggc gcgtgtaca agctcggtt ctcaagcg	3480
448	caatacaagg acatgtatgt tgaagggggt ccccccgggg ccgaacccca gtacggc	3540
450	cttcccgaca gagctgcctc tcgggtggca gcaggactt gcccagacca cacgtagccc	3600
452	ccaggctgtt ggacacgtcg gacagcgaat tatccccac aggcgggt tggcttcca	3660
454	tttgtgtgt tgcaagtgtt tatgtgcgtt tggcgttgc gatgtgttgc tctgtgtgt	3720
456	agtgtgtgtc cgtgtgcgtt tgcgtgcattt tgcactcgca cggccatgtt tgagtgtgt	3780
458	caagtatgtt agtgtgttca gtgtgtgtc gtgtgtccat gtgtgtgcag tggtgtcatg	3840
460	tgtgcgtt tggtcatgtt tgcgttcagg ggctgtggct cacgtgtgtt actcagatgt	3900
462	tctctggcgt gtgggttaggt gacggcagcg tagccctcc ggcagaagg aactgcctgg	3960
464	gctcccttgcgtt gctgtggtaa gccgtgtgtt ggtttccctc cgggagaggg gacggtaat	4020

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 11/21/2002
PATENT APPLICATION: US/09/902,481B TIME: 10:19:19

Input Set : A:\A70586-1_Proposed_Substitute.ST25.txt
Output Set: N:\CRF4\11212002\I902481B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; Xaa Pos. 3,4,5,6